

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 March 2004 (04.03.2004)

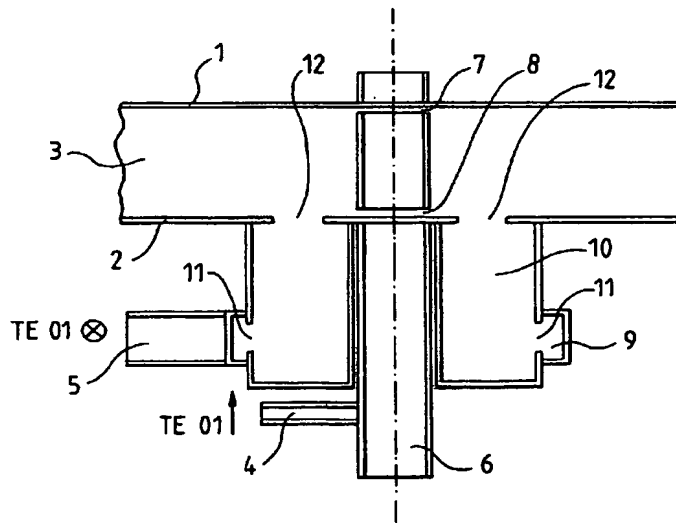
PCT

(10) International Publication Number  
**WO 2004/019451 A1**

- (51) International Patent Classification<sup>7</sup>: **H01Q 13/10**, (74) Agent: **RUELLAN-LEMONNIER, Brigitte**; 46 Quai Alphonse Le Gallo, F-92648 Boulogne cedex (FR).  
21/00
- (21) International Application Number: **PCT/EP2003/050357** (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 4 August 2003 (04.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0210507 23 August 2002 (23.08.2002) FR
- (71) Applicant (*for all designated States except US*): **THOMSON LICENSING S.A.** [FR/FR]; 46 Quai Alphonse Le Gallo, F-92100 Boulogne-Billancourt (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **PINTOS, Jean-François** [FR/FR]; Le Bas Sommier, F-35740 Pace (FR). **CHAMBELIN, Philippe** [FR/FR]; 14 rue du Plessix d'Essé, F-35410 Chateaugiron (FR). **LOUZIR, Ali** [TN/FR]; 6 rue de la Godmondière, F-35000 Rennes (FR).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: **RLSA ANTENNA HAVING TWO ORTHOGONAL LINEAR POLARISATIONS**



(57) Abstract: The network antenna of the RLSA type in the form of a radial waveguide (3) has a feed structure allowing simultaneous excitation of the antenna in two orthogonal linear polarizations. The feed structure, essentially placed to the rear of the antenna, consists of a circular waveguide (6) placed at the centre of the radial waveguide and coupled to the latter by two circular slots (7, 8) for the excitation of the antenna in a first linear polarization and of a coaxial waveguide (10) surrounding the circular waveguide (6) and coupled to the radial waveguide (3) by radial slots (12), the coaxial waveguide (10) being excited by a ringshaped waveguide (9) placed coaxially on the outer periphery of the coaxial waveguide and coupled to the latter by slots (11) distributed around the inner periphery of the ring for the excitation of the antenna in a second linear polarization orthogonal to the first linear polarization.